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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/646,228	09/14/2000	Hideyoshi Horimai	107318	5554

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EXAMINER
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LIU, MING HUN

ART UNIT	PAPER NUMBER
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2675

DATE MAILED: 05/17/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

Application No.

09/646,228

Applicant(s)

HORIMAI, HIDEYOSHI

Examiner

Ming-Hun Liu

Art Unit

2675

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 16, 26, 33, 34, 44 and 46-51 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 16, 26, 33, 34, 44, and 46-51 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- ☐ Notice of References Cited (PTO-892)
- ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_.
- ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_.
- ☐ Notice of Informal Patent Application (PTO-152)
- ☐ Other: \_\_\_\_.

## DETAILED ACTION

### *Claim Rejections - 35 USC § 102*

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. Claims 16, 26, 33, 34, 44, and 46-51 are rejected under 35 U.S.C. 102(b) as being unpatentable by US Patent 5,132,839 to Travis.

In reference to claim 16, the examiner is relying on Travis' second embodiment, illustrated in figure 5 for the rejection. Travis teaches a three-dimensional image display comprising, a two-dimensional image forming means (column 8, line 37, description of two dimensional display 4) formed by arranging a plurality of pixels, capable of forming a two-dimensional image by driving each of the pixels; and three-dimensional image forming means for forming a three-dimensional image in a space based on the two-dimensional image formed by the two-dimensional image forming means, wherein the two-dimensional image forming means includes image formation control means (control system 99) for controlling an image forming operation such that a two-dimensional image formed thereby changes with time, and wherein the three-dimensional image forming means includes deflecting means for deflecting the projecting direction of the two-dimensional image by deflecting the light which has exited the two-dimensional image forming means such that the projecting direction of the two-dimensional image formed by the two-dimensional image forming means changes in accordance with time-dependent changes of the two-dimensional image. (column 8, lines 46-60).

In reference to claim 26, it can be seen from column 5, line 6, that Travis clearly offers holographic deflecting means as an option.

In reference to claims 33 and 34, it can be seen from figure 9a that Travis teaches a particular embodiment where the three-dimensional system and deflecting means are formed on a curved, cylindrical surface (column 11, lines 20-22).

In reference to claim 44, Travis teaches a three-dimensional image display comprising a two-dimensional image forming means for forming a plurality of two-dimensional images by scanning light which has been subjected to time-modulation based on information on rearrangement of data of each of pixel of the plurality of two-dimensional images (column 8, lines 46-50) and three-dimensional image forming means for forming a three-dimensional image by projecting the plurality of two-dimensional images formed by the two-dimensional image forming means in directions different from each other (51-59).

In reference to claim 46, Travis teaches that the two-dimensional image forming means is a created by scanning light subjected to time-modulation (column 3, lines 13-16). The three-dimensional image is formed by projecting the two-dimensional images in directions different from each other (figure 5; column 8, lines 50-55).

In reference to claims 47 and 48, Travis teaches that the controller unit (item 99), coordinates the light projection direction and the synchronization data necessary for proper three-dimensional display (column 8, lines 55-63 and column 5, lines 38-45).

Claims 49 and 50 are rejected on the grounds presented in the rejection of claims 16, 44, and 46-48.

In reference to claim 51, it can be seen from Travis' figures that the display system is a fixed.

***Response to Arguments***

3. Applicant's arguments filed 11/15/04 have been fully considered but they are not persuasive. The applicant states that Travis does not disclose a "deflecting means for deflecting the projection direction of a two-dimensional image by deflecting the light which has exited the two-dimensional image forming means such that the projecting direction of the two-dimensional image formed by the two-dimensional image forming means changes in accordance with time-dependent changes of the two-dimensional image", such an assertion is incorrect. Travis teaches on column 8, starting line 51, that "spots of light are displayed on the screen of the two-dimensional display device. When light from each spot passes through the nearest lens of the lenticular array, it is converted into substantially rays of light whose direction depends on the position of the spot in the screen of the two-dimensional display device."

4. The examiner also disagrees with the applicant's argument that Travis does not disclose a "two-dimensional image forming means for forming a plurality of two-dimensional images by scanning light which has been subjected to time-modulation based on information on rearrangement of the data of each pixel of the plurality of two-dimensional images." From the disclosure on column 8, lines 46-55, Travis teaches that the displays are time-modulated by the controller.

***Conclusion***

5. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Ming-Hun Liu whose telephone number is (571)272-7770. The examiner can normally be reached on Mon-Fri.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Sumati Lefkowitz can be reached on 571-272-3638. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Art Unit: 2675

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Ming-Hun Liu

  
SUMATI LEFKOWITZ  
SUPERVISORY PATENT EXAMINER